

CHEMLOK® 489-1/456 ADHESIVE

Technical Data Sheet

Chemlok® 489-1/456 adhesive is a two-component adhesive system designed for bonding PVC to prepared metals, glass and plastics during injection molding.

Features and Benefits

Easy to Apply: low viscosity allows for easy application by spray, brush, wick or dip methods.

Convenient: requires only a single coat for most applications. No preheating of primed substrates is necessary prior to injection molding.

Durable: provides PVC cohesive tearing performance both at room temperature and after exposure to heat and water environments.

UV Fluorescence: Chemlok 456 curative contains a fluorescent tracer that will fluoresce or “glow” when exposed to a low or medium intensity UV light; permits detection of curative in the resin; provides confirmation of the mixed adhesive on the bond surface.

Application

Surface Preparation: Thoroughly clean glass bond surface with a glass cleaner. For optimum adhesion, bond to the oxide surface of the glass. If metal and plastic inserts are part of the molding process along with glass, make sure all parts are clean and free of contaminants. Clean any metal or plastic parts with isopropyl alcohol, xylene or MEK. For best results, apply adhesive to dry, clean parts immediately after cleaning.

Mixing: Thoroughly stir Chemlok 489-1 resin. While stirring, add 4-6 parts, by weight, Chemlok 456 curative to 100 parts, by weight, Chemlok 489-1 resin. For difficult substrates, the amount of Chemlok 456 curative can be increased up to 20 parts of Chemlok 456 curative for each 100 parts of Chemlok 489-1 resin.

Thoroughly mix the two components before using. Mixed working life is ≈12 hours, depending on ambient temperature and humidity conditions during use.

If dilution is needed, use xylene or toluene. For conventional spray application, add one part xylene to four parts mixed adhesive. Adjust dilution ratio as needed for best atomization.

Applying: Apply adhesive by brush, spray, dip or wick applicator.

Regardless of application method, the dry film thickness of Chemlok 489-1/456 adhesive should be 2.5-12.7 micron (0.1-0.5 mil).

Drying/Curing: Before molding, allow coated parts to air-dry for 1-2 hours at 18-27°C (65-80°F) and at least 45% relative humidity. Drying time can be shortened by oven drying for 4 minutes at 93°C (200°F) or 2 minutes at 138°C (280°F). Larger parts may require more oven time as a result of the heat sink effect.

For best results, injection mold within 5 hours of adhesive application.

Typical Properties*

	489-1 Resin	456 Curative
Appearance	Clear to Amber Liquid	Light Amber Liquid
Viscosity, cps @ 25°C (77°F) Brookfield LVT Spindle 2, 30 rpm	50 - 150	<25
Density kg/m ³ (lb/gal)	840 - 890 (7.0 - 7.4)	1010 - 1030 (8.4 - 8.6)
Solids Content by Weight, %	8 - 11	49 - 51
Flash Point (Seta), °C (°F)	18 (65)	27 (81)
Solvents	MIBK, Xylene, IPA	Xylene

*Data is typical and not to be used for specification purposes.

Cleanup: Use solvents such as isopropyl alcohol or acetone to remove uncured adhesive. Remove cured adhesive by wiping or soaking part in a more aggressive solvent, such as MEK. Mechanical scraping or abrasion may also be required.

Shelf Life/Storage

Shelf life of each component is one year from date of manufacture when stored by the recipient at 21-27°C (70-80°F) in original, unopened container. Do not store in sunlight.

Chemlok 489-1 resin and Chemlok 456 curative are moisture sensitive, individually and when mixed together. Minimize exposure to moisture. If Chemlok 489-1 resin develops a cloudy appearance or a white sediment on the bottom of the container, consult your Parker Lord Technical Service Representative prior to using.

Cautionary Information

Before using this or any Parker Lord product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

Verify Volatile Organic Compounds (VOC) requirements with the applicable local, regional and state air quality authorities before importing, selling or using this product. VOC rules, thresholds and reporting obligations vary by jurisdiction; compliance is the responsibility of the importer/seller/owner.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

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